



## **Approved Materials List for Water Distribution Potable System**

### **Materials Testing and Inclusion Procedures**

Manufacturers who would like materials considered for the approved materials list shall:

1. Comply with all the design criteria set forth for the approved materials.
2. Supply, at the manufacturer's expense, the materials to be tested. (Quantity to be determined by the City of Goodyear Environmental Services Department)
3. Any project using brass or bronze service material that comes in contact with potable water must meet AWWA C-800, NSF 61-8 and Federal Law.
4. Preference will be given to materials manufactured and assembled in the United States.

Once the materials have been received, the Water Distribution Division will visually inspect materials for defects and compliance with all City standards. The Water Distribution Division will install or oversee the installation of all materials in the distribution system or other test sites as determined to be in the best interest of the City. Materials will be tested and evaluated for a minimum of one year, commencing on the date of installation. Evaluations will include but are not limited to:

1. Ease of installation
2. Availability of parts
3. Operational issues
4. Quality of manufactured materials
5. Number of moving parts
6. Reliability of service

If the materials supplied, at any time in the testing period fail, the testing will be concluded immediately. If the materials successfully complete the testing period, Water Distribution will recommend the product to be included in the City of Goodyear Approved Materials List.

The Approved Materials List will be updated annually at the first of each year. New Manufacturers and Models that have been approved by the City for inclusion on the list will be added at that time.

A maximum number of manufacturers will be approved for each category. Once a category has been satisfied, manufacturers successfully completing the test requirements will be added to a Pending Approved Materials list. Pending materials will be listed sequentially according to successful completion of testing. Materials presently on the Approved Materials List may be omitted from the list due to:

1. Change in service/availability.
2. Change in product design.
3. Bankruptcy
4. Consistent product failure
5. Any other reason as deemed appropriate by the Environmental Services Division

If an approved material is taken off the list for any of the above reasons, the first pending material will be added to the list.

## Water Distribution Materials

### Fire Hydrants (5 Manufacturers)

#### Requirements

- Meet AWWA Standard C502 and C550
- UL 246 approved
- Dry barrel hydrant
- Method of lubrication shall be food grade oil or grease
- Operating nut shall be 1-1/2 inches pentagon (standard)
- Direction of opening shall be counterclockwise (left)
- Hose and pumper threads (male) shall be brass and field replaceable
- Threads shall be "National Standard"
- 2 hose nozzles (2-1/2 inches) and 1 pumper nozzle (4-1/2 inches)
- Inlet connection shall be mechanical joint
- Shall include "traffic flange"
- Size of hydrant valve opening shall be 5-1/4 inches
- All public hydrants shall be painted yellow
- All public hydrants shall be painted red

Manufacturer	Model
Clow	Medallion
Kennedy	Guardian K-81D
Mueller	Super Centurion
Waterous	WB-67
U.S. Pipe	Sentinel

### Fire Hydrant Grade Adjustments (1 Manufacturers)

#### Requirements

- Extensions shall **not** be used to reach finish grade for **new** fire hydrant installations.
- Where the finish grade around an **existing** fire hydrant is changed, an extension kit, installed per the manufacturer's specifications, may be used.
- Only one extension may be used per hydrant. The extension kit **must** be manufactured by the original fire hydrant manufacturer; no after market parts are allowed.

Manufacturer	Model
Assured Flow Sales	Grade Loc

### Fire Hydrant Locks (1 Manufacturers)

#### Requirements

- Must prevent unauthorized operating of hydrants
- Readily attaches to all hydrant makes and models
- Must be strong enough to withstand vandalism and weather extremes
- Hydrant must be operated without removal of lock utilizing magnetic type wrench only

Manufacturer	Model
Hydra-Shield	Custodian

### Fire Hydrant Grease (2 Manufacturers)

Manufacturer	Model
Mystik	FG-2 Food Machinery Grease
Clarion	Food Machinery Grease, No. 2



## Gate Valves (6 Manufacturers)

### Requirements

- Meet AWWA Standards C515 and C550
- Valves body shall be ductile iron and meet or exceed reduced wall standards
- Valve wedge shall be fully encapsulated with nitrile rubber
- Valves shall be epoxy-coated inside and out
- Stem o-rings shall be replaceable with the valve fully open at rated working pressure
- Direction of open shall be counterclockwise (left)
- All fasteners shall be stainless steel

<u>Manufacturer</u>	<u>Model</u>
American Flow Control	AFC 2500-1
Clow	Style 2638 or 2639
M&H	Style 7000
Kennedy	Style 7000
Mueller	Series 2361 or 2362
US Pipe	Model USP1

## Insertion Valves (1 Manufacturers)

<u>Manufacturer</u>	<u>Model</u>
Romac	QuikValve Valve #361 Sleeve #310

## Butterfly Valves (4 Manufacturers)

### Requirements

- Butterfly valves are required on distribution mains larger than 16 inches.
- Meet applicable AWWA Standards C504 Standard
- The valve disc shall be fully encapsulated in nitrile rubber
- Valves shall be epoxy coated inside and out
- All fasteners shall be stainless steal
- Direction of open shall be counterclockwise (left)

<u>Manufacturer</u>	<u>Model</u>
Clow	Series 4500 or 1450
Mueller	Lineseal III
Kennedy	Series 4500 or 1450
M&H	Series 4500 or 1450

## Air/Vacuum Release Valves (1 Manufacturers)

### Requirements

<u>Manufacturer</u>	<u>Model</u>
ARI	No. D-040NT – Combination air valve “Barak” w/ 1-1/2” x 2” ARI Bug Screen (potable use)
ARI	No. D-025P/SS w/ Threaded Inlet and 1-1/2” x 2” ARI Bug Screen (Raw Water Use)

## Water Meters (2 Manufacturers)

### Requirements

- Appropriate make, model, and manufacturer is to be determined by the Environmental Services Department. All meters are supplied by Environmental Services .

#### Manufacturer

#### Model

#### **Positive Displacement Meters 3/4"-2"**

Sensus	SR 2, AccuStream, Ipearl
Neptune	T-10

#### **Turbo Meters 1-1/2" - 8"**

Sensus	Omni Series (T2)
Neptune	HP-Turbine

#### **Compound Meters 3" - 6"**

Sensus	Omni Series (T2)
Neptune	Tru/Flow

#### **Fireline Fire Service Meters 6"**

Sensus	Compact Fireline w/ULFM Strainer
--------	----------------------------------

#### **Detector Check Meters**

Neptune	T-10
---------	------

#### **Fire Hydrant Meters**

Neptune	3" Fire Hydrant Meter
---------	-----------------------

#### **Mag Meters 3"-6"**

Elster	evoQ4
--------	-------

## Radio Read Meter Reading Devices (2 Manufacturers)

#### Manufacturer

#### Model

Sensus	520 Touch Coupler MXU
Neptune	E-coder R900i

### Water Service Saddles (3 Manufacturers)

#### Requirements

- Meet applicable AWWA C800 and NSF 61 Standards
- Double strap brass saddle
- Thread shall be female iron pipe

<u>Manufacturer</u>	<u>Model</u>
Ford	Style 202B
AY McDonald	3826
Mueller/Jones	BR2B/J-979

### Corporation Stops (3 Manufacturers)

#### Requirements

- Meet applicable AWWA C800 and NSF 61 Standards
- Inlet threads shall be iron pipe
- Shall utilize a ball valve
- For service line installations, the outlet shall utilize a compression style pack joint with a set screw
- For downstream end of blow off installations, the outlet shall utilize male iron pipe threads

<u>Manufacturer</u>	<u>Model</u>
Ford	FBRW1100-TA
AY McDonald	4104B-22
Mueller/Jones	P25028-10/E-1935

### Water Service Lines

#### Requirements

- Minimum size service line is 1"
- Services 2" and smaller require type "K" soft seamless annealed copper
- Services 3" and larger require ductile iron pipe

### Meter Valves/Curb Stops (3 Manufacturers)

#### Requirements

- Meet applicable AWWA C800 and NSF 61 Standards
- Angle stop ball valve with 90 degree Tee Head rotation
- Padlock wings
- The inlet shall utilize a compression style pack joint with set screw
- 1" curb stops shall have a swivel meter coupling to allow for meter installation
- 2" curb stops shall be flanged, have elongated bolt holes allowing for either 2" and 1 1/2" meters, and allow for drop in rubber gaskets

<u>Manufacturer</u>	<u>Model</u>
Ford	BFA43-777W, BA43-444W
AY McDonald	4602B-22
Mueller/Jones	P-24258, P-24276/E-1963, E-1975

### Water Mains (3 Manufacturers)

#### Requirements

- All mains shall be ductile iron pipe
- Meet ANSI/AWWA Standard C151/A21.51-02
- Minimum class 150

<u>Manufacturer</u>	<u>Model</u>
Griffin Pipe Products	N/A
American Cast Iron Pipe Co.	N/A
US Pipe	N/A

### Tapping Sleeves (1 Manufacturers)

#### Requirements

- Meet AWWA C223-02
- No Size on size applications

<u>Manufacturer</u>	<u>Model</u>
Powerseal	3490AS

### Full Circle Repair Clamps (3 Manufacturers)

<u>Manufacturer</u>	<u>Model</u>
Romac	SS1, SL1
Ford (Single Band)	F1
Smith-Blair	221, 226, 229, 238

### Flex Couplings (3 Manufacturers)

<u>Manufacturer</u>	<u>Model</u>
Romac	XR-501 Extended Range
Ford	FC2W Transition Coupling
Total Piping Solutions	HyMax 2000 Series

### Flange Coupling Adapters (3 Manufacturers)

<u>Manufacturer</u>	<u>Model</u>
Smith-Blair	912
Romac	FC400/FCA 501/RFCA
Ford	FFCA

### Restrained Joints Mechanical Style (5 Manufacturers)

<u>Manufacturer</u>	<u>Model</u>
EBBA Iron	1100 Series
Romac	Roma Grip
Ford	UFR 1400
Star Pipe Products	Stargrip Series 3000
Griffin Pipe	Tough Grip

### Restrained Joints Gasket Style (5 Manufacturers)

<u>Manufacturer</u>	<u>Model</u>
U.S. Pipe	Field Lock Gasket
American Cast Iron Pipe Co.	Flex Ring Joint
American Pipe	Fast Grip Gasket
McWane	Sure Stop 350 Gasket
Griffin Pipe	Talon Gasket

## Water Boxes

### Requirements

#### 3/4" - 2" Meter Boxes

- Pre-cast concrete meter boxes
- Steel lid with a 1-7/8" pre-drilled hole
- #2 meter box shall be used for 3/4" and 1" water meters
- #4 meter box shall be used for 1-1/2" and 2" water meters and Air Relief Valves (ARV)

#### 3" and above Meter Vault

- Pre-cast concrete vault with aluminum lids is required per C.O.G. Standard Detail G-3313

#### Valve Boxes

- 8" blue PVC C-900 Riser Material
- Seamless pipe
- In applications that require a seam a sealed bell joint is required
- Installed per M.A.G. Detail 391-1 Type A with cast iron frame and cover with concrete collar

#### Air Release Valves

- Pre-cast concrete meter boxes
- Polymer lid with no hole
- #4 meter box

#### Water Meter Vaults 3" and above

- A pre-cast concrete vault with aluminum lids per City of Goodyear detail G-3314

## Electronic Locators (1 Manufacturer)

### Requirements

- Passive (non-programmable 1408-XR) locators are to be used on straight lengths of pipe only. See
- Non-Passive (programmable 1408-XR/ID) locators are to be used and programmed at any change in direction
- Self leveling
- Operate at frequency 145.7 KHz
- Operate at bury depth of at least 4 feet

<u>Manufacturer</u>	<u>Model</u>
3M	1403-XR (passive)
3M	1423-XR/ID (ID ball marker)

## Debris Caps (1 Manufacturer)

### Requirements

- Hollow member having a cylindrical outer surface
- Flexible skirt that provides an outward seal
- Rated to 50 pounds at a loading rate of 1 inch / minute
- Molded per General Electric ABS #HIM 4500
- Retaining prong for locating coil
- 3M locating device
- Blue handle

<u>Manufacturer</u>	<u>Model</u>
SW Services Inc.	DC825 (blue handle) w/3M EMF 1413-XR Locating Coil



## **Backflow and Cross-Connection Devices**

### **Requirements**

- Refer to the approved assemblies list published by the USC Foundation for Cross-Connection Control and Hydraulic Research for backflow prevention and cross-connection devices and assemblies that are approved for use in the City.

## **Water Quality Sampling Station (1 Manufacturer)**

### **Requirements**

- Koraleen XLT Sampling Station
- Flush mounted lock
- Sample valve stainless steel, ball valve 1/2" x 3/8" 800 psi
- Flush mounted gem cam lock with tubular key
- All units keyed alike
- The sampling station shall be 4 feet tall and 6 inches in diameter

**Manufacturer**

Water Plus Co.

**Model**

301W

## **Automatic Flushing Device (1 Manufacturers)**

### **Requirements**

- All fittings must be brass
- Built-in sampling port
- Lockable and all units are keyed alike

**Manufacturer**

Kupferle

**Model**

9800-WC Eclipse